

A REPORT OF:

**THE PROCEEDINGS OF
THE CLIMATE CHANGE ADAPTATION
AND
BIODIVERSITY MANAGEMENT WORKSHOP.
IMPERIAL GOLF VIEW HOTEL - ENTEBBE.**



14TH-17TH DECEMBER, 2011
REPORT PREPARED BY : IRENE SSEKYANA



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Acknowledgement

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Special mention is made of the resource persons and facilitators for their invaluable contribution to the workshop. The papers and presentations you prepared enabled the participants to effectively discuss, learn and share their practical experiences on climate change and how it has impacted on natural resources and biodiversity in Uganda.

We particularly acknowledge the efforts of the team at Environmental Law Institute, especially Ms. Lisa Goldman, for her tireless efforts and commitment in the planning towards the success of this event.

The Greenwatch team is also highly commended for their diligent efforts in coordinating, planning, design and selection of the resource persons and experts who deliberated on the diverse topics that were presented at the workshop.

Acronyms

ABS	Access to Benefit Sharing
CCU	Climate Change Unit
CDM	Clean Development Mechanism
CER	Certificate for Emission Reduction
CITES	Convention on International Trade on Endangered Species
COP	Conference of Parties
EBM	Ecosystem Based Management
EIA	Environmental Impact Assessment
ELI	Environmental Law Institute
EPF	Environmental Protection Force
FCPF	Forest Carbon Partnership Facility
FSSD	Forest Sector Support Department
GHG	Green House Gases
IPCC	Intergovernmental Panel on Climate Change
IWRM	Integrated Water resources Management
NAPA	National Adaptation Programme of Action
NARO	National Agricultural Research Organisation
NEA	National Environment Act
NEMA	National Environment Management Authority
NEMP	National Environment Management Policy
NFA	National Forestry Authority
PES	Payment for Ecosystem Services
REDD	Reduction of Emissions from forest Degradation and Destruction
SEA	Strategic Environment Assessment
UNCST	Uganda National Council for Science and Technology
UNFCC	United Nations Framework Convention on Climate Change

Introduction

Over the last few decades, countries have developed and sought to implement legal, institutional, and governance frameworks designed to manage biodiversity. Initially, biodiversity management focused on protection; now, there is a more nuanced set of approaches that advance biodiversity protection, management, and sustainable use.

In addition to community-based approaches, frameworks for governing biodiversity have incorporated principles of ecosystem-based management, trans-boundary cooperation, ecosystem services, and equitable sharing of benefits. Yet there remains a critical gap in most of the existing frameworks governing biodiversity: by and large, they fail to consider, much less address, the effects of climate change.

In response to this need, the Environmental Law Institute (ELI) worked with government and non-governmental partners including Greenwatch(Uganda), the Development and Environmental Law Centre(Madagascar) among others, in six countries to produce a detailed “***Resource Manual for Adapting Laws to Protect Biodiversity from Climate Change,***” which presents the principles of ecosystem-based adaptive management and examined how countries can use science and policy to adapt biodiversity management to the uncertain effects of climate change, as well as an accompanying Strategic Options Paper, which highlights key messages and guidance from the Resource Manual targeted at policymakers. The countries partnered with include the Dominican Republic, Vietnam, Bhutan, Uganda, Madagascar.

After the publications were released, workshops were held in four of the six partner countries with critical biodiversity and natural resources.

The workshops brought together scientists, natural resource managers, members of the legislature/policy makers, civil society, and other stakeholders to discuss how to incorporate the scientific principles of adaptive management into the legal and policy framework governing biodiversity to better anticipate and manage the effects of climate change on biological resources. The December 2011 workshop in Uganda organized by Greenwatch was the third of four such events.

1.0 Opening Ceremony

The opening ceremony of the workshop comprised of brief remarks from the Director of Greenwatch and official remarks from the Hon. Mrs. Flavia Munaaba, the Honourable Minister of State for Environment.

1.1 Remarks from Mr. Kenneth Kakuru, Director of Greenwatch

The Director Greenwatch welcomed the participants to the workshop and thanked them for taking time from their busy schedules to attend the workshop.

The purpose of the workshop was to:

- introduce participants to a resource manual on “**Legal and Policy tools to adapt to Climate Change**;
- come up with strategies for incorporating adaptive management principles into the legal and policy framework governing biodiversity in Uganda;
- identify any opportunities of how the resource manual can be applied in Uganda.

He underscored the need to have laws that can address changing climatic times for instance, heavy down pours that cause flooding and result in the creation of semi permanent swamps in areas that were previously not swamps. This creates a challenge in managing natural resources, because some of the areas are on private lands.

1.2 Official Opening Remarks by the Hon. Mrs. Flavia Munaaba, *Minister of State for Environment*

The opening of the workshop was presided over by the Honourable Minister of State for Environment who thanked the participants for having made it to the workshop especially considering that the COP 17 in Durban had just ended.

The Honourable Minister observed that global warming is indeed the biggest environment and development challenge that the 21st Century is facing, adding that scientists have strongly come to a consensus that the world is indeed warming. She emphasized that the Government of Uganda is taking the issue of climate change seriously and is devising means towards meeting the common challenge that climate change has on humanity. The Government of Uganda is in the process of developing a climate change policy which will stipulate how the climatic changes will be addressed by different actors.

She noted that the problems posed by climate change require concerted effort in addressing them and should therefore not be handled in isolation. Just as the IPCC has observed, Africa, which has contributed least to climate change and yet least equipped to adapt to its adverse effects, will be hit hardest by global climatic changes. There is therefore, a need for all actors to work together.

The Honourable Minister cited some examples on the evidence of the consequences that have resulted from global warming we live with including changes in precipitation patterns that have caused increased floods which have caused infrastructural losses like bridges being washed away in

Karamoja and other regions, roads becoming impassable in many parts of the country among others. These she added, have wider consequences like families being displaced from their homes and rendering them environmental refugees as well as causing tension and conflict among the communities where they are temporarily settled. Such impacts have more profound consequences on public health causing disease epidemics like water borne diseases. Extreme climatic changes have also caused droughts which are a big challenge to food security. Further to the above, during the drought seasons, there is scarcity of food which results into high food prices, inflation and in the result, domestic violation has been reported.

The Honourable Minister reiterated the need to institute measures that are sustainable and longer term at all levels and all spheres, from policies to plans, laws, and institutions to take climatic changes into consideration. In addition, it was noted that the mitigation measures that have been devised are inadequate hence the need to devise both mitigation and adaptation measures.

Appreciating the wealth of our national environmental laws, the Minister remarked that the meeting was a great opportunity for civil society, government officials, the private sector and Members of Parliament to dialogue and conceptualise the legal issues coined around impacts of climate change, adaptation and the inter-linkage to biodiversity management.

Observing that our natural resource laws were enacted many years ago without considering the climate change scenario, and considering that the country has no policy or plan on climate change to guide the subject, the Honourable Minister emphasized that the failure of the existing legal framework to actively consider and address the effect of climate change could deter implementation of measures that could effectively adapt to climate change.

The provisions in the existing legal framework that relate to climate change adaptation were not adopted with climate change in mind and do not address climate change related disasters like increased fires, invasive species, food security and trans-boundary resources among others.

In addition, Mrs. Munaaba underscored the importance of harmonizing the above mentioned environmental laws with those of the East African Community for improved management of climatic changes in the region, adding that using legal policy tools is one of the measures that would be of assistance in addressing some of the climate change induced challenges currently being faced and others that will emerge.

In conclusion, the Honourable Minister expressed her appreciation to Greenwatch, the organizers of the workshop and to the Environmental Law Institute for supporting the initiative and urged them to take whatever will be deliberated on further into action.

Thursday Dec. 15th 2011

2.0 Session I: Climate Change in Uganda

2.1 An Overview of Climate Change in Uganda

Participants were taken through a discussion on the Uganda National Adaptation Programme of Action (NAPA) specifically, on the aspect of impacts of climate change. This set the pace for a healthy discussion on impacts of climate change in Uganda. Participants then gave their personal observations or experiences on climate change highlighting the various impacts they have observed and experienced in different sectors. The impacts were categorized according to sector including infrastructure, tourism, environment and natural resources, meteorology, health, education, and livelihoods.

In schools, during the extreme hot conditions, teaching and learning is tricky and in extreme wet conditions children often do not go to school as roads are impassable. Children in boarding schools are also affected by lack of water which makes life difficult for them.

In the infrastructure sector, it was observed that there has been loss of infrastructure like roads, bridges, schools among others as a result of increased weather events like floods, landslides and hail storms that have blown away schools, and other buildings. This has resulted into the collapse of the budgeting process as there is no value for money and further stress on governance and loss of trust of the public in the government.

The increased floods also greatly impact on public health due to the emergence of disease vectors and in the result, epidemics e.g. water borne diseases like cholera and dysentery in addition to diseases emerging in areas where they originally were not heard of for instance malaria infestation in Kabaale in Western Uganda.

It was observed that natural resources depletion and degradation has led to loss of catchment areas, habitats and biodiversity. For instance, water levels in many water bodies have increasingly reduced as a result of siltation and pollution load. Also, water sources like springs and boreholes have dried up. Further to the aforementioned are reports of high water treatment costs as a result of the pollution load in the inner Murchison Bay that supplies water to the greater Kampala. Also observed was the fact that many species of birds, butterflies, wild animals have increasingly disappeared, this poses a big threat to the tourism sector which is mainly natural resource based; the depletion and loss of biodiversity leads to reduced numbers of tourists and guests and in the result loss of revenue from foreign earnings. Of specific mention were the increasingly reducing levels of the ice cap on Mt. Rwenzori as a result of the melting of the snow as well as the Mt. Elgon mudslides which could scare tourists away from the attractions.

Impacts of climate change threaten livelihoods support as the systems that once supported livelihoods have since disappeared, causing social tension and conflicts. Such difficult conditions in rural areas have led to rural-urban migration; in many instances looking for better opportunities to life. When they get to urban centers, many settle in fragile ecosystems where land is perceived to be free, and in the end degradation results. This in the result causes increase in crime rate.

In the Meteorology sector, it was reported that more heat events have been experienced with the resultant impacts on air travel. Seasonal forecasts are no longer reliable and the unpredictable seasons have big impacts on livelihoods.

In the agriculture sector, it was observed that the variability and unpredictability in rainfall and seasons has affected growth of food crops. In the extreme wet seasons, fields are flooded and crops washed away. Those that are not wiped away rot before they are harvested. In extreme dry weather, the crops do not mature and get scorched from the fields. Prolonged droughts have caused food scarcity hence threatening food security and the resultant inflation.

Impacts on other aspects like communal relations, competition over scarce natural resources e.g. pastoralists competing for grazing land and access to water have led to indirect implications like domestic and community based violence. Depletion of forest resources has led to scarcity of fuel wood and water, increasing the amount of time young girls spend in search for fuel wood for energy and water for domestic use as they travel long distances in the search. Many young girls have been defiled and raped on their way, leading to early pregnancies, falling out of school and could even result into sexually transmitted infections like HIV.

It was agreed that there is need for community education and awareness, particularly stressed was the use of indigenous species(e.g. trees).

The biological impacts on human livelihoods were also highlighted; whereupon it was observed that we ought to look at which species are harmed and which benefit for instance e.g. mosquitoes.

A participant from Madagascar noted that extreme floods in the South of Madagascar have in the past led to water scarcity causing people to use bottled water for cooking and bathing; those who could not afford were highly inconvenienced and impacted on. Also, it was reported that critical ecosystems have been degraded.

There was a general consensus that the scope of climate change ought to be widened taking into consideration the impacts that emerge in a broader perspective.

2.2 Introduction to Adaptation & Ecosystem-Based Management –By Dr. Chris Bakuneeta, Makerere University.

This paper highlighted the concept of Ecosystem Based Adaptive Management as a way of addressing climate change impacts. It was observed that because the climate is changing all the time, so we ought to change in our thinking on how to approach the various impacts. The presenter highlighted that past environmental management emphasized only ecological, social and economic factors; there was no linkage to the environment. Ecosystem Based Management (EBM) on the other hand is a new concept that considers humans and livelihoods in addition to factors named above.

EBM aims at restoring and protecting health, functions & resilience of entire ecosystems and the guiding principles are ecosystem health and integrity. Ecosystem integrity is measured from how diverse biodiversity is. The concept of park conservation has now replaced protected areas in order to link conservation to the people and avoid conflicts.

Adaptive management refers to the process of being flexible to the changing climatic conditions and is based on learning from outcomes. It was observed that climate change impacts are still not clearly understood by the local people at the grassroots and hence effort should be made to make the local

people understand the changing climatic conditions. Adaptive management recognizes the need for continuous learning.

Whereas passive adaptive management recognizes the need to continue learning so that decisions are effected in case of uncertainty and values learning when such decisions improve on outcomes, active adaptive management incorporates learning as one of its objective functions.

The Uganda NAPA 9 “ projects” including tree planting, land degradation, meteorology, water production, water sanitation, drought adaptation, Vectors, pests and diseases, Indigenous Knowledge and natural resources management.

The NAPA is now being tested(process started in mid 2011), having been published in 2007 and has only been piloted in four districts of Nakasongola, Paliisa, Bundibugyo. It was observed however that the piloting is being done on a small area and the very vulnerable regions for instance Karamoja region were not considered.

The NAPA is a quick channel for communication where the coping strategies are categorized into A and B. Under category A, the coping strategies identified are innovative and have positive impacts on the environment and are encouraged to be applied by the communities for instance use of herbal medicines in cases where there is drug resistance to contemporary medicines, water harvesting among others. Under Category B coping strategies that may have negative environmental impacts for instance bush burning and migration to resource endowed environs during droughts are discussed. Coping strategies under this category indeed have challenges, for instance, in the case of migrations (as the case is with pastoral communities) to resource endowed areas causes social tension and in the result, conflict emerges. The challenges underscored in the NAPA indicate that impacts of climate change are still not understood and there is still inadequate capacity and financial resources coupled with weak institutional coordination.

The presenter observed that opportunities thrive wherever there are challenges and urged the participants to make use of the opportunities that come with climatic changes to address the challenges arising there-from.

In conclusion, the presenter recommended that barriers should be broken to bring people on the ground to understand why for instance rains are not coming as predicted. Response strategies should be iterative by creating an environment for participation, listening and learning from the people as well as understanding their issues. Such strategies should also be flexible and inclusionary. Also, it is important that resilience is increased and maintained to ensure sustainability.

Discussion

The discussion that ensued largely echoed the need to interlink other sectors that co-relate with the environment and natural resources like tourism as well as the need to take collective action by civil society, Government and development partners to address the impacts and challenges posed by climate change. It was largely felt that Integrated Water resources Management(IWRM) should be incorporated while planning for climate change interventions particularly at the grassroots.

A number of ongoing regional approaches that aim at addressing the issues of climate change within the Lake Victoria Basin which should be strengthened exist. The Lake Victoria Basin Commission for instance is undertaking a number of initiatives addressing adaptation to climate change in the Lake Victoria Basin. Also, Uganda is a member of the Nile Basin Initiative(NBI), which has a

climate change strategy that includes local level initiatives that are being undertaken. All work being undertaken by other partners should therefore complement ongoing initiatives on adaptation like those mentioned above.

Participants enumerated a number of gaps that undermine the transition towards a more adaptive development. These include coordination, participation in key decision making and communication. It was observed that many organizations and institutions are doing a lot of work on climate change which is not well communicated to partners. This in the end causes resource duplication. Implementation and lack of knowledge on the Access to information law is also a gap that hinders the public from accessing vital information for instance on rainfall, temperature or weather elements that could make the public make informed decisions in respect to for instance farming. It was largely echoed that the public have no knowledge of what projects are being implemented under the NAPA.

Further to the above is the need for policy changes in the NAPA; for instance in the energy policy, government would make amendments to subsidize on cooking power as opposed to planting trees to substantially reduce on the number of trees being cut down for charcoal production. The National Planning Authority is collating information to streamline climate change issues in the different sectors in order to develop unified guidelines.

3.0 Session II: Legal Aspects of Climate Change Adaptation

3.1 Introduction of the Resource Manual on “Legal and Policy Tools to adapt biodiversity management to climate change”: *By Ms. Lisa Goldman, Attorney- ELLI.*

The main objective of this presentation was to introduce the participants to the Resource Manual on “*Legal and Policy Tools to adapt biodiversity management to climate change*”. The presentation also made mention of the fact that the project was undertaken in the Dominican Republic, Vietnam, Madagascar, Bhutan and Uganda.

The Manual is composed of three parts under the following sub-sections: Adaptation and biodiversity management to climate change, Legal and Regulatory options for adaptive resource management and implementing adaptive rules and policies in natural resources.

There are 6 steps in the adaptive management cycle namely:

- assessing the situation, information, stakeholders etc;
- designing and adopting measures to address the situation(using law, permits, policies);
- implementing management decisions to test theories;
- monitoring key trends on compliance and effectiveness of measures;
- evaluating effectiveness of the programme through regular reviews and
- adjusting identified strategies.

The presenter noted that there are functional areas of how legal frameworks can be adaptive including:

1. **Setting a vision and Planning:**

This is comprised of three steps:

Exploring possible future scenarios based on trends in the key drivers of change, evaluating current and proposed policies to determine which will likely be most effective over the long term, defining core objectives for conservation based on a fuller understanding of feasible outcomes as well as key uncertainties that may undermine those goals.

2. **Information management:**

This consists of periodic reviews, coordination of policies and activities by integrating adaptation across all institutions. Options under existing institutional structures may include:

- appointing inter-agency contact persons (liaisons) to coordinate on cross-cutting climate change adaptation issues;
- assigning responsibility to each line ministry to consider climate change in activities and programs (e.g. through use of EIA and SEA); and
- establishing regional coordinating bodies that streamline existing legal authorities.

It is important to relate with government across different economic sectors for instance through the EIA process.

3. **Compliance and enforcement and enforcement of rights and duties:**

These are mechanisms to balance flexibility and accountability. They involve setting and enforcing climate resilient management objectives, insulating flexibility mechanisms from misuse for instance allowing natural resource managers to make decisions and adjustments to laws/policies based on changing conditions.

Policymakers can give resource managers and users flexibility without sacrificing environmental protections or procedural safeguards.



Examples of legal flexibility include: allowing managers to use their expert judgment to make policy adjustments on issues considered from the start to fall within their discretion, setting standards individually by region based on local conditions and climate impacts and providing authority to adjust terms and conditions of resource use permits and authorizations to reflect changing ecological conditions.

Clear legal drafting is essential for adaptation policies. The type of language used is also important. Enforcement rights and duties, substantive and procedural rights and the role of courts in climate change.

The presenter opined that it was challenging to show how standing could be restricted, even how what is happening could affect you personally.

A legal and policy framework for adaptive resource management would likely rely on such “hard” requirements as mandatory reporting requirements, audits, inspections and compliance and enforcement mechanisms. The goal is to use the legal framework to enable flexible, adaptive management to take place.

Implementation of adaptive rules and policies in natural resources management can be achieved through:

1. **Permitting, licensing and concession for natural resource access and extraction:** resource managers can use permits as tools to monitor, modify programme to protect a resource. The permits that can be modified or terminated according to periodic assessments of ecological conditions, including how a resource is affected by climate change, can help promote adaptive management.

The concept of flexible permitting provides adaptive capacity to resource users by allowing shifts in use to the least vulnerable resources or migration to more fertile areas. For a resource whose availability is threatened by climate change (e.g. a lake or swamp drying up), a flexible system of **temporary permits** can be used to allow temporary access to other sources of that resource (e.g. a lake inside a protected area), however this should be done with caution. It is also important that all stakeholders are involved in the permitting process.

Monitoring is very important in ensuring that the permits are effective. This can be done through:

- i) **auditing** to ensure that the information reported by the permitted entity is accurate. Audits should be performed randomly and without prior notice.
- ii) **giving incentives** in the form of rewards for those who report fraudulent actions on a permit or provide inaccurate monitoring data.
- iii) **Imposing** performance bonds to assist in resolving uncertainties of resource use or development.

2. **community based natural resources management:** climate change impacts localized hence response must be context specific, need to promote community awareness, use of Indigenous Knowledge to incorporate into adaptation strategies.

Engaging and collaborating with local communities is very important in adaptation. Local policies, plans and strategies can be developed by incorporating traditional knowledge and customary rules for resource use. Usually communities are aware about what is happening around them and are informed about the measures that have been used to respond to climatic impacts that they face, this is a starting point for appreciation to the need for adaptation and to develop their own adaptation measures.

For communities that feel powerless over climate change effects, the government can establish and promote local associations or committees to share ideas and experiences and promote local environmental planning initiatives to give them control over resources as well as the establishment of community-to-community networks for information sharing and learning.

3. **Management of Protected Areas on public lands and waters** would include the need to build climate resilience into the design of Protected Areas, improving connectivity between them through Corridors which provide routes for species movement between core habitat areas, buffer zones – areas adjacent to protected habitat for protecting the core habitat from

outside encroachment. It is also important to incorporate community roles, rights to access resources and benefit sharing with adaptation.

4. **Private lands conservation:** public law tools to support adaptation and conservation on private lands and mechanisms for adapting private conservation areas to climate change. For instance protecting buffer zones and private in-holdings (privately-owned land within the boundaries of public lands). Also important is the need for community-civil society partnerships where communities could receive development benefits in exchange for participating in conservation activities.

Discussion

In the discussion that followed, participants were concerned about how natural resource conflicts can be managed in instances where the government itself grants land in contravention of the laws and how courts could be used to address such scenarios. The case in mind was BIDCO where government allocated land to a private investor for large scale palm oil growing in a gazetted forest reserve. BIDCO planted palm trees in disregard of the 200m buffer zone requirement from the shoreline. Participants questioned the applicability of laws in resolving resource conflicts arising from climate change impacts. In response to the above, it was observed that periodic reviews and monitoring by NEMA to reopen permits would assist in managing some of the issues that may spring up.

It was echoed by majority of the participants that the Resource Manual tools should review both adaptation and mitigation. In respect to Protected Areas and need for adaptation, the Senior Legal Counsel at NEMA observed that NEMA has incorporated some of the biodiversity conservation concepts like environmental easements, Payment for Ecosystem Services (PES) in oil and gas management. Particularly, NEMA is piloting a project in the Albertine Rift where oil and gas exploitation is being undertaken to address biodiversity offsets and have had talks with Tullow Oil, one of the exploration firms in this regard. NEMA is also working with communities to ensure that community resources are conserved. Participants were informed that it is a legal requirement for developers to undertake activities that offset impacts of their developments. Adrift, a private water rafting company working on River Nile has instituted offset actions that their activities are likely to have on the environment.

On EIAs and certificates of approval:

Observations were made in respect of developers who do not adhere to the conditions stipulated in their certificates of approval for operation making enforcement difficult. The certificate of approval does include conditions for operation, but developers don't comply and usually go beyond what the certificate authorizes. These certificates should be read in conjunction with the EIAs. Also, participants echoed that many EIAs are made but no public hearings are held as required by the law.

The meeting opined that EIA should be subjected to parliamentary review considering that no EIA standards exist, hence project proponents could submit documents that do not qualify for an EIA. The meeting was informed that police officers were being trained to constitute the Environmental Protection Force (EPF), which will be under the command of the Inspector General of Police. An environmental desk at the Criminal Investigations Directorate will also assist in the crackdown of offenders and rampant abuse of the environment especially at awkward hours particularly night time

and during public holidays. There was a healthy discussion around biodiversity on private land and how owners of such biodiversity can benefit from the use of the EPF.

On enforceable rights and duties:

Participants questioned the practicability of the Public Trust Doctrine whether there can be flexibility in its implementation. The issue of private ownership was noted as a big challenge in the enforcement of conservation easements. This ought to be explored further.

The meeting observed that a number of wetlands are owned by citizens, whereas the government holds the resource on behalf of the citizens as enshrined under Article 237 of the Constitution on Public Trust Doctrine. The issue of ownership therefore becomes a big challenge during implementation. Mr. Kenneth Kakuru affirmed that the public trust doctrine may not be sufficient as climatic changes are having impacts that were not envisioned earlier and not even incorporated in the law. The meeting was informed that the Ministry of Water and Environment is currently working on a law that is specific on wetlands though the provisions in the Bill do not differ from those on wetlands management in the National Environment Act.

A member of the Parliamentary Forum on Climate Change observed that transparency is required in the permitting and licencing processes. It was reported that even Members of Parliament do not have access to many permits or know to whom they are granted. It is important that the public is made aware on where to obtain certain permits and how to access them. The permitting system ought to be in tandem with the law, mention was made here of permits granted in Protected Areas. The law ought to be changed to address aspects of activities that can be allowed in areas such as Protected Areas. The cases in mind include the mining of limestone at Dura in Queen Elizabeth National Park and the oil drillings in Murchison Falls National Park. In response to the discussion on permit use in resource management, it was observed that resource management permits cannot be effectively used to accomplish environmental conservation objectives.

On conservation on private lands, it was affirmed that it is possible to conserve on private lands but the community must be engaged in such initiatives, understand importance of conservation so that they attach importance to the environment and natural resources that support their livelihoods. However, managing and conserving biodiversity on privately owned land can be challenging because of the land tenure systems. The sustainable development versus conservation nexus is also a challenge and the green economy is an emerging concept that should also be embraced.

On information management, Prof. Bakuneeta recommended that information on Uganda be included in the Resource Manual as well. He observed that there is insufficient application of data for conducting predictive monitoring for the next 100 years. As important as this may be, the discussant noted that there should be a way of ensuring that that kind of information is incorporated into the Resource Manual so that this could input into decision-making processes.

3.2 Legal and Policy Framework for Biodiversity and Climate Management in Uganda: *By Ms. Christine Akello, Senior Legal Counsel, NEMA*

Ms. Akello took participants through the legal and policy framework governing biodiversity management in Uganda. She highlighted the laws, starting from international law to national law in respect of biodiversity management. Some of the international laws highlighted include the Cartagena Protocol, the Convention for Biological Diversity, the Convention for International Treaty on Endangered Species(CITES) among others.

Among the national laws discussed include:

The 1990 National Environment Action Plan; which aimed at providing a broad framework for integrating environmental considerations into the nation's socio-economic development strategy.

In 1994 the National Environment Management Policy (NEMP) was enacted. It had a specific policy objective geared at conserving, preserving and restoring ecosystems & maintaining ecological processes and life support systems, especially conservation of national biological diversity. It also had a cross-sectoral policy objective that aims at conservation of biological diversity in relation to the pricing policy which should ensure that prices paid by resource users reflect the cost of resource replacement or rehabilitation.

The draft National Biodiversity Strategy and Action Plan was developed to complement the NEMP. The National Environment Act (Cap. 153) was enacted as an Act of Parliament, Section 41 obliges NEMA to make guidelines for conservation of biological diversity, mainstream biodiversity conservation and sustainable utilisation in existing government activities and activities of private persons; identify, prepare and maintain an inventory of biological diversity of Uganda and determine components of biodiversity that are threatened with extinction in addition to identifying potential threats to biodiversity & devise measures to remove or investigate their effects.

The Act also provides for the conservation of biological resources in situ including land use methods that are compatible with the conservation of biodiversity, selection and management of Protected Areas to promote the conservation of the various terrestrial & aquatic ecosystems of Uganda; selection and management of buffer zones near protected areas, controlling the introduction of alien species and integrating traditional knowledge for the conservation of biodiversity with mainstream scientific knowledge among others.

NEMA is also obliged to ensure that species threatened with extinction which are conserved ex situ are reintroduced into their native habitats & ecosystems where the threat to the species has been terminated or a viable population of the threatened species has been achieved.

On Access to Benefit Sharing (ABS), specific guidelines and measures issued in Uganda, both under the NEA and the ABS Regulations specify appropriate arrangements for access to the genetic resources of Uganda by non-citizens of Uganda, including the fees to be paid for that access, the

measures for regulating the export of germ-plasm, the sharing of benefits accruing from genetic resources originating from Uganda among others.

On forestry management, the National Forestry & Tree Planting Act vests forestry resources in the Government and allows user rights and development of forest management plans. The Act also focuses on tree planting and afforestation. The Act stipulates that commercial exploitation of any forest shall be carried out in accordance with the principle of the optimum sustainable yield. It also provides that traditional uses of forests which are indispensable to the local communities and are compatible with the principle of sustainable development shall be protected.

Under wildlife, the Uganda Wildlife Act (in line with the Constitution) vests wildlife resources in the government and provides for EIA, audits and monitoring. It also provides for the establishment of a national park or wildlife reserves and issuing permits for biodiversity conservation, recreation, scenic viewing, scientific research as well as the regulated extraction and use of natural resources. The Wildlife Act also provides an opportunity for wildlife farming, investment in conservation and tourism.

The National Environment (Wetlands, Riverbanks & Lakeshores) Management Regulations have a unique concept of protection zones and catchment protection in addition to prohibiting change of land use, restricted activities, allowable traditional activities like collecting papyrus and medicinal herbs among others.

Under the Land Act, there are provisions for utilising and occupying land in accordance with the environment legislation, sustainable land use and for the public trust doctrine in respect of natural resources on land. The challenge however is to get land allocations to reflect the fragility of ecosystems like wetlands etc. The District Environment Committees together with the Local Environment Committees are mandated to ensure that they monitor the implementation of any land use plans prepared in accordance with the NEA.

The Agricultural Seeds and Plant Act provides for the cultivation and preservation of indigenous seeds as well as establishment of gene banks.

The presenter also highlighted some of the effects of climate change on biodiversity including droughts and floods, food shortages and hence hunger and famine, infrastructure damage, pasture shortage, unreliable seasons and their related impacts on agriculture, water shortages and its effect on undermining ground water recharge, water contamination during flooding, soil degradation/erosion and increased pest and disease epidemics, reduction in forest biomass and undermined forest services, including forest regeneration, general species loss and the effect on livelihoods.

The meeting was informed that the Bill to make meteorology an agency was developed for disaster forecasting and relaying early warning mechanisms. It also deals with emergency preparedness and management. This will eventually be used to mainstream the climate change monitoring system to the economy for instance in sectors like agriculture.

The presenter highlighted some of the challenges faced in biodiversity and climate change management including the expansive nature of biodiversity related laws, ensuring adequate conservation and streamlining linkages among the laws and among the institutions implementing them. It was highlighted that the constitutional rights such as the right to a clean environment, the provisions on sustainable development and the environmental provisions related to permitting, licensing and performance bonds are not adequately developed to encompass climate change considerations. Also, disaster risk reduction is yet to get the national attention, as part of adaptation in line with the 2005 -2015 Hyogo Framework for Action agreed at the World Conference on Disaster Reduction in January 2005, Kobe- Hyogo, Japan.

The need to recognize differentiated responsibility for Uganda as a developing country, outline adaptation measures and responsible actors, agree on voluntary emission reductions in addition to providing for greenhouse gas emissions trading schemes such as Clean Development Mechanism (CDM) as well as building financial incentives for businesses to reduce waste generation and increase on recycling were some of the recommendations that were underscored.

In conclusion, the presenter observed that there is indeed a marked linkage between biodiversity conservation and climate change. It is very crucial to limit the effects of climate change on ecosystems and human life. The legal regime on climate change mitigation and adaptation is still very deficient in Uganda. However, while developing a framework law and in addition to it, legal provisions in other laws can be resiliently applied. Inter-sectoral collaboration and engagement of stakeholders is strongly recommended as well as the promotion of investment in appropriate technology. The use of economic instruments including valuation, taxation, permitting, and performance bonds are good tools for establishment of a Green Climate Fund. Public awareness and participation is key and paramount.

Discussion

Participants noted that as long as there is no political will, frustration in the enforcement process will increase. A number of environmental suits that have been filed in courts of law have to date not received any major hearing. These include BIDCO, Mabira, Dura cases. Whereas the Butamira case set a precedent on forest degazetement especially by Local Governments, the implementation of the decision is yet to be realized. The governance challenge in institutional leadership has also created mistrust among the public as to whether these institutions can perform their mandate. The NFA was cited as one of such institutions where scandals have rocked the institution for the last 5 years.

It was largely emphasized that governance issues stemming from corruption especially in respect of non-compliance are putting the future of the environment and natural resources at stake. In response, it was agreed that an environmental court that would concentrate on environmental issues could be of assistance in curbing environmental degradation just like the Anti- Corruption Court. This would require specialized judicial officers to handle the matters like the environmental tribunal

in Kenya does. However, Ugandan judges allege that there are not enough environmental cases to justify the creation of an environmental court, an opinion that is not entirely true. Environmental rules of access and procedure to convince the public to file environmental cases have been made and these await a decision from a Kenyan Court on how communities can access and bring environmental matters in court.

It was observed that much as the laws and policies are good on paper, natural resources continue being degraded. Participants questioned with concern what the missing link is so as to solve the riddle.

3.3 Legal Adaptation to Climate Change : *By Mr. Kenneth Kakuru, Director, Greenwatch.*

In this presentation, participants were taken through the practical issues that are being experienced as a result of climate change and the scenarios that are emerging and those that could emerge. Scenarios of lakes drying completely, or their shores expanding as a result of heavy rains and implications on their boundaries were highlighted.

Other scenarios discussed included; private lands becoming permanently flooded and turning into seasonal lakes or wetlands and whether the law would define such areas as wetlands and whether the owners would be compensated if these were to be defined like the NEA states. The NEA defines a wetland as any area which is seasonally or permanently flooded with water. The afore-going definition would therefore mean that the area that was not flooded before but has now become seasonally wet would be defined as a wetland and would be under that trusteeship of the government. Such scenarios as those discussed above have serious implications on the law and therefore there is a need to review the laws to incorporate such changing climatic scenarios.

Also highlighted were aspects of how the law can be used to adapt to changing climatic issues. For instance; when a lakeshore recedes as a result of low water levels, or when lake shores burst and occupy private property, in Protected Areas, during the drought seasons if communities can only access water in a protect area yet by law they are not allowed to do so and vice versa. How then would the law be used to protect and manage biodiversity?

Discussion

In the ensuing discussion, the participants stressed that environmental stress as a result of human activities should not be distanced from the effect of climate change. Participants also noted that the law should be adaptive in specific contexts to deal with specific issues in specific scenarios.

For instance herder migrations and conflicts were particularly emphasized; participants questioned how the laws could be used to address these emerging scenarios. Special mention was made of hilltops that have been fenced off by land owners and access to water sources cut off, thus creating

a likelihood of conflict emergence as herdsmen searching for water and pastures for their herds in dry seasons migrate to these areas only to find that access is denied.

Participants emphasized the need for laws to be flexible to handle such scenarios like the one just mentioned. The meeting also noted the need to identify gaps in the law where such emerging scenarios could be integrated, and guaranteeing the full participation of the public in implementing the legal requirements.

4.0 Session III – Climate Change Adaptation Projects in Uganda

In this session, the presenters discussed and shared experiences on climate change adaptation initiatives they have undertaken in their areas of work.

4.1 Trees for Global Benefit, *By Ms. Annet Ssempala*, Environmental Conservation Trust of Uganda(*Ecotrust*)

Ms. Ssempala elaborately shared the experience of the carbon offsetting project – “Trees for Global Benefits”, which is a cooperative rural community carbon offsetting scheme being implemented in Kasese, Mitooma, Kashari Districts in Western Uganda and Gulu and Nwoya districts in Northern Uganda. Ecotrust conducts training sessions for farmers on how to plant the trees, provides advice on the type of species to be planted, but leaves the farmers to discretion to them for the most preferred option according to livelihood option.



Right. A tree plantation under the scheme in Mitooma.

The carbon credit obtained by the farmers assists them to invest in other adaptation and mitigation initiatives. ECOTRUST supports the community to adapt to climate change using income from expected mitigation to invest in adaptation.



The cooperative approach allows farmers access markets and diversify income through long-term investment and planning. Farmers are advised to integrate tree planting in their livelihood strategies and to manage their woodlots for timber, firewood, fruits, extracting medicinal herbs among other uses.

Left: A farmer training in session. Picture courtesy Ecotrust

4.2 From Waste to Energy: A Presentation by *Mr. David Nkwanga, Nature Palace Foundation*

Mr. Nkwanga shared the experience on how bio-degradable waste is being collected and converted into energy and the biodiversity conservation initiatives that aid adaptation that have been undertaken. Nature Palace Foundation takes advantage of the availability of abundant bio-degradable waste which is collected from local communities around them and converted into briquettes to use in cook stoves. This effort saves biodiversity and reduces deforestation as well as providing a more effective, economic and cleaner energy source for the locals. This initiative also improves the communities' health through improved hygiene and sanitation. The initiative also has a component on poverty reduction through livelihoods enhancement.



Above: left: An energy cooking stove; Right: A briquette made out of bio-waste. Pictures courtesy Nature Palace.

The use of energy cooking stoves (like the one above) among the local communities is also promoted by Nature Palace. These initiatives have positively impacted on livelihoods by improving their adaptive capacity through improved human health as a result of reduction in respiratory disease incidences associated with the traditional cooking stove. The initiatives have also improved household incomes because of the economic incentives attached to them.

Nature Palace contends that addressing key drivers of biodiversity loss as a result of deforestation is an important step in promoting and improving adaptation capacities of local communities. To this end, they conduct awareness and sensitization campaigns on biodiversity conservation among schools and the locals on climate change and how they can improve their adaptive capacity.

Friday, December, 16th 2011.

5.0 Session IV: Economic Implications of Climate Change

5.1 Implications of climate change on Uganda's socio-economic development: *By Mr. Telly Eugene Muramira, Director Policy and Planning, NEMA*

The presenter started his presentation by observing that there is no systematic study has been conducted to determine the economic impacts of climate change.

The manifestation of climate change in Uganda has been through extreme weather events including droughts, floods, windstorms, heat waves and cold waves, seasonal variability and crop failures. Between 1991-2000 Uganda had seven (7) drought episodes and one El-Nino weather outcome in 1997.

Since no systematic study has been undertaken, estimates of economic impacts have been based on effects of extreme weather conditions on agriculture (estimated yield losses), post harvest losses and quality deterioration due to extreme wet conditions (for instance quality of coffee and beans in a particular season), direct destruction of crops by floods and drought. It is reported that about 800,000 ha crops are lost annually due to climatic related disasters which translates into Uganda shillings 120 billion – 2007/08 estimates)

The impacts also brought about shortfalls in hydro-power generation due to reduced lake levels specifically in 2005/06 to the tune of 148GWh equivalent to Uganda shillings 37 billion. There has been destruction of infrastructure to the tune of Uganda Shillings 50 billion per annum. The health sector expects more disease- vector burden (specifically malaria) and water borne diseases including cholera and diarrhea.

The presenter underscored the opportunities that climate change brings forth including opportunities for adaptation and positive change in agricultural practices that require a transition from traditional agricultural practices to climate smart agriculture, water harnessing and thus improving supply in drier spells, energy, trade and commerce as well as new areas for research and development. The Clean Development Mechanism (CDM) for instance emphasizes sustainable development and meeting emission reduction commitments for developed and mainly industrialized countries. Opportunities also abound for projects that reduce Green House Gas emissions and contribute to sustainable development through Carbon Emission Reduction certificates which are sold to international Carbon markets.

Key beneficiary businesses under the CDM project in Uganda include mini-hydro plants, co-generation, waste composting plants and afforestation projects. For instance, CDM projects being implemented by NEMA in select Municipalities around the country are turning waste into energy and Certificates for Emission Reduction given. This is being piloted in Masaka, Mbale, Mukono, Jinja, and Mbarara. Carbon credits can then be given for these CERs.

There are also voluntary carbon markets e.g. FACE whose business volume has tripled between 2007-2009 to USD 350 million. Some sectors like semi- arid pastoral agriculture are bound to be favoured over others. The presenter highlighted the need to sustainably manage floods by harvesting and storing the excess water in dams or tanks for later use. This can especially be used in drier times for the sustainability of livestock and farming.

In conclusion, the presenter alluded to earlier statements made that climate change is real and has far and wide reaching global negative impacts. Poor countries more are vulnerable and yet least resilient to the effects of the climate change. There is thus a need to climate proof the economy in every aspect in order to support people's livelihoods.

The presenter identified the need for research in forecasting, water storage and disaster risk reduction to be undertaken to continue informing national policy decisions. The meeting was informed that the National Climate Change Policy for Uganda will address all the above issues because wide consultations have been done.

Discussion

Following the presentation, the participants had a detailed discussion on the economic costs of climatic variability in Uganda.

The meeting observed that costs incurred for instance to reconstruct infrastructure as a result of floods and storms are causing major macro-economic strains and undermining economic growth in the country. These extreme conditions present a big challenge to the budgeting process and also add no value to the budget process on the whole. For instance under road construction, funds are allocated every financial year to particular roads as a result of floods that destroy the roads, adding no value for money. Such costs require very strong responses from government in crafting adaptation measures that would help reduce costs incurred to rectify effects of climatic changes. Floods specifically have been associated with blockage of drainage systems in urban areas due to poor waste disposal habits.

Observations were made to the effect that:

- human settlements in wetlands have caused degradation to the ecosystem which become disaster areas when the rains come. This has also caused stress on the water purification function of the resource and in the result; water draining into lakes and rivers has high pollution loads. This has a trickledown effect on the water treatment costs by the National Water and Sewerage Corporation that incurs immense costs to treat water for human consumption.
- over stocking of animals in dry and range land areas like Nakasongola continues to be the major challenge, coupled with deforestation mainly for charcoal burning. This has resulted into loss of vegetation cover and in the end soil erosion and run off which eventually account for the siltation load in water bodies.

- post harvest seasons have been greatly affected in the agriculture sector; the harvested crops do not dry due to lack of warmth especially in the wetter seasons. In Teso region for instance, it is either very dry or flooding. Floods from the Karamoja region all end up in Teso.

Reports from the Meteorological Department indicated that the Karamoja region bordering Kenya had more rains in the past season(April-May) which greatly impacted on the food security as food crops were washed away from the fields before they matured. In other instances, the crops rotted away. This translates into loss as many farmers increasingly take loans from micro-credit facilities to plant their crops. So when there is crop failure, the farmers are faced with a difficult scenario to cope with particularly when payment for the loan is due. This has caused social stress in some individuals.

In respect to biodiversity loss, participants cautioned that there may be no biodiversity twenty years from now if the current loss rated at 1% per annum is not mitigated. Invasive species brought during the colonial times for ornamental purposes like the paper mulberry have for instance colonized tropical natural forest areas and continue colonizing the indigenous species. The introduction of new species from other areas into areas where they originally did not live causes competition which naturally wipes out the indigenous species if they fail to out-compete the foreign species.

The linkage between climate change and evolution was also discussed. It was reported that because of climatic changes, some species of animals like amphibians have evolved over time. As temperatures changed, those that could not withstand the changing water decrease evolved and turned into birds. The extinction of dinosaurs in fact has a lot to do with climate change as well as evolution.

It was echoed that the vulnerability situation of our social fabric also exacerbates the impacts of climate change on society. Behavioral and change in attitude may take a while, but the government has to support in addition to development partners.

The meeting emphasized the need to revamp the adaptive capacity if society is to deal with the impacts of climate change head on. New adaptation measures have to be crafted all the time to address the emerging issues. The meeting was cautioned that while climate proofing may solve problems, others may be created especially to the communities. In regard to the adaptive capacity for communities, participants reiterated the need to use researched and proven models such as the Kawanda Model of grafting and use of improved or drought resistant varieties to assist communities to adapt instead of introducing Genetically Modified crops with their resultant effects on the environment.

In Kabaale District for instance, the removal of indigenous plants that used to desalinate the swamps and introduction of foreign ones in the 1960s is believed to be the cause of the frequent floods in the area which have wiped away all the planted grass. Locals now believe the only way to manage the recurrent floods is by leaving the indigenous pastures to regenerate.

Under the health sector, it was observed that the 1978 El- Nino caused immense loss in the health sector in the tune of four million US Dollars on treating cholera victims. It was observed that some diseases are now termed endemic and are only termed as epidemic when they go out of control.

The participants decried a number of gaps that exist which continue to undermine the transition towards a more adaptive development. Coupled with the afore-going is the fact that the economy is not well prepared to handle such impacts of climatic changes. The gaps mentioned include among others, financial gaps, governance gaps, communication and knowledge gap, and social justice and human rights.

Under communication and knowledge, the meeting underscored the need for effective communication to ensure that the public has confidence and trust in government in regard to mechanisms of response or disaster risk reduction when catastrophes or disasters strike. Communication has great implications on researchers and government, policy and decision makers and especially the communities who are most vulnerable. It was observed that a lot of research is conducted but never disseminated to the key audience for which it targets. It was further observed that most of this information lies in libraries and institutions but has not been translated into practical aspects that could have profound positive impacts on society. Participants were urged to feed the government with information to inform policy, translate it into action to feed into the National Planning processes so that the economy is climate proofed. The need for government to incorporate the costs of responding to climate change and adaptation into sector wide development planning processes was also underscored.

In regard to social justice and human rights aspects of climate change, the meeting echoed the need to keep impacts of the responses minimal and secure the rights of local communities as well as their property and assets.

5.2 Overview of the Climate Change Agenda in Uganda, *By Mr. Chebet Maikut, Climate Change Unit(CCU).*

This presentation highlighted the climate change process in Uganda and what has been done by the government in that respect. Uganda's National Development Plan launched in 2010 recognizes climate change and provides for four strategic objectives encompassing both adaptation and mitigation, including participation in international negotiations. The government through the MWE has established the Multi-sectoral Climate Change Policy Committee, Inter-Institutional Climate Change Technical Committee, and Climate Change Desk Officers in a number of institutions. Committees are preparing climate change mainstreaming guidelines, policy briefs, a national climate change policy and implementation strategy(a key undertaking of the Ministry), promoting the CDM, and implementing the NAPA.

On policy reforms, the development of the National Climate Change Policy was noted as the most important issue on this front. The participants were informed that the policy is set to be

accomplished by the end of June 2012; it sets the overall policy guidance and enabling framework for climate change management and programme of action on how to combat its impacts in Uganda.

The Government of Uganda has also put in place an institutional framework– the Climate Change Unit(CCU) under the Ministry of Water and Environment to address and coordinate responses and actions on climate change and work with international bodies. The CCU is the National Focal Point institution for the United Nations Framework Convention on Climate Change and secretariat for the Designated National Authority for Uganda for the purpose of participating in regulated carbon trading. NEMA has CDM projects being piloted in Masaka, Jinja, Mbale and Mukono on waste management from which these Municipalities are set to reap money from CERs.

Discussion

The discussion that followed mainly focused on the reflections of COP 17 in Durban, South Africa. The presenter noted that this was the most difficult and challenging COP, much as some commitments were achieved. Among the achievements was having a side event hosted by the government of Uganda that was well co-ordinated and officiated at by the Honourable Minister of Water and Environment.

Participants noted with concern that some developed countries are exiting the Kyoto Protocol; Canada, Japan and Russia have refused to be part of Kyoto and its commitments.

Observing that COPs decisions are very important and have big implications on communities, the meeting agreed that information from CBOs should be linked and channeled to national NGOs who will then take their issues to COPs. Since the inception of the Sustainable Development forum in 1972 in Rio de Janeiro in Brazil, there have been more civil society organizations participating in COPs. Harmony and networking is crucial, as was showcased at the just concluded COP 17 where Ugandan CSOs attended the side event together with government representatives.

5.3 The REDD Process in Uganda, By Henry Bazira, Water Governance Institute, Member of Uganda REDD+ Working Group.

This presentation highlighted the Reducing Emissions from forest Degradation and Destruction (REDD+) process in Uganda as well as the challenges and opportunities presented by REDD+. REDD+ is a market mechanism under the Kyoto Protocol.

In 2007, the REDD Project Identification Note(R- PIN)was made. This was later approved in 2008, leading to the REDD Preparation Process(R-PP). The period 2008 -2011 saw the coming into effect of the R-PP = REDD readiness Preparation Process. During this time, baseline studies as well as studies to update available data were conducted. Stakeholder consultations were also done and these were supported by the Forest Carbon Partnership Facility(FCPF) and the UN – REDD.

The country then developed a proposal, the National REDD+ Strategy proposal. It is anticipated that in the period 2011 – 2014, the National REDD+ Strategy will be in Place and is set to be implemented through pilot projects. Beyond 2014 and going forward, the National REDD+ strategy will be fully implemented.

In regard to the status on REDD implementation in Uganda, the meeting was informed that the National REDD+ strategy was yet to be developed and that no projects had been initiated. An initial grant to steer the process of development is yet to be received from the World Bank and additional funds from the Norwegian government were given to NFA for the expanded consultation with other stakeholders. Other organizations like IUCN and CARE country offices also contributed to the process. The Forest Sector Support Department(FSSD) in place of NFA will be the focal point and implementing agency.

The presenter highlighted some of the opportunities that are presented by REDD+ including:

- REDD+ is a modification of the Carbon (emissions) trading initiatives with improvements on the latter. Whether or not this is the most effective way of mitigating GHG emissions, remains to be seen;
- Through REDD+ initiatives alternative renewable energy sources such as hydro power, biogas, solar and wind are likely to be developed as pilots and proof of saved emissions from deforestation and wetland degradation;
- Ordinary farmers and investors in emissions reducing investments are likely to make significant revenues from emissions (carbon) credit trading;
- Integrating REDD+ initiatives across the different sectors of the economy such as agriculture, forestry, energy, mining, infrastructure development is a good carbon proofing mechanism.

With all the afore- mentioned opportunities, the REDD+ process it was reported, has some challenges as well. These include:

- it is not a well understood concept in Uganda;
- with the limited political commitment from developed countries to reduce emissions and change life styles, realization of reduced GHG emissions will remain a challenge;
- the competition between food and energy production will make adoption of REDD+ initiatives a great challenge. There is hence a need to balance between trading with food security;
- developing alternative renewable energy options may be challenging;
- absence of a clear and effective policy as well as a legal and institutional framework to implement REDD+.

- duplication of roles and responsibilities within and across government Ministries, Departments and Agencies;

In conclusion, the presenter underscored the need to:

- conduct more stakeholder consultations and baseline studies on the national REDD+ strategy and public awareness on the impact of global warming at the individual level;
- conduct pilot projects to justify REDD+ implementation in the country;
- streamline coordination between the different government agencies and integrate climate change and disaster risks reduction initiatives into the process;
- scale-up existing national policies, laws and institutional provisions to meet the demands of REDD+;
- personalize climate change, GHG emissions and global warming and partner with CSOs in implementing initiatives through for instance mobilizing society and raising awareness.

Discussion

In the discussion that ensued, the meeting emphasized the need for REDD implementation issues to be taken to other regions especially to the vulnerable areas like Karamoja. The participants were quick to note that there were few pilot projects being implemented under the NAPA.

Participants opined that progress of what is taking place on REDD+ at national level since June 2011 when the R-PP was approved by the World Bank FCPF team should have been highlighted. Further, the progress on the outcome of the REDD+ Durban text where it was agreed on various elements such as safeguards, reference level and now the stick issue of finance is what is remaining.

The meeting cautioned that planting trees could be more attractive than growing food crops which could have implications on food security if communities are not guided; a balance therefore has to be stricken.

It was also observed that the focal point for REDD+ could cause an information gap in terms of flow; hence ought to be fast tracked so that the process of REDD implementation is accomplished.

Group Discussions

Participants on day three were divided into groups to discuss key issues on climate change with specific reference to the following questions:

1. What are the greatest threats posed by climate change to biodiversity?
2. What are the priority adaptation needs corresponding to these threats?
3. What are the actionable recommendations for addressing these needs through the legal and regulatory framework for biodiversity?
4. How can these recommendations be implemented?

Field Excursion to UWEC

In the evening of day three, participants were taken for a field excursion to the Uganda Wildlife Education Centre(UWEC).



Left: Participants holding a young python at UWEC

Saturday, 17thDecember, 2011

6.0 Group Presentations

Group 1: Protected Areas and Wildlife

1. Protected Areas

Areas gazetted for the protection, conservation and enjoyment of nature e.g. forest reserves, National Parks, Ramsar sites, world heritage sites, wildlife sanctuaries, zoos, herbaria, etc.

2. Wildlife

This refers to both flora, fauna, fungi, bacteria and virus in the wild.

3. *Threats to Biodiversity*

The group identified the following as the greatest threats to biodiversity in Protected Areas:

1 – human activities for instance encroachment due to decreasing pasture land, considered fertile for cultivation, poaching, bush fires, search or timber;

2 – natural calamities including bush fires, lightning, drought, floods;

3 – pests and diseases, for instance anthrax in Queen Elizabeth National Park (QEPA) in 2008 which claimed the lives of many wild animals. Some livestock from neighbouring pastoral communities were also affected.

4- Human Activities (e.g. encroachment because decreasing pastures, considered fertile for cultivation, poaching, bush fires, search for timber)

5- Natural calamities (Bush fires, Lightning, Drought, Floods)

4. Adaptation Needs

On human activities:

- enforcement of laws on encroachment and resource sharing mechanisms should be applied.
- provide alternative sources of livelihoods e.g. bee keeping, poultry, sustainable agriculture, Biogas, wildlife ranching & conservancies, spot hunting on community lands, community tourism .
- fire lines, early burning, early warning systems, buffer zones, controlled fires.
- fencing should be done to curb encroachment and reduce the human-wildlife conflict.

On natural calamities:

- lightning: Use lightning arrestors, Plant and conserve trees, Incorporate indigenous knowledge on management.
- drought: Apply irrigation methods, valley dams, plant trees to protect water sheds
- Floods: plant trees, harness flood waters for later use.
- regular wildlife census should be conducted.
- wildlife corridors should be
- research on protected areas and wildlife and disseminate biodiversity status information
- awareness raising on the threatened species,
- community empowerment
- adaptive Collaborative Protected Area , wildlife Management and PA conservation

Discussion:

In the group discussion, members questioned the linkage of natural calamities to climate change and how the distinction can be made in case the calamity is purely natural. The developments in oil and gas present some opportunities to address developments in the legal framework.

Group 1 – Protected Areas and Wildlife

In the plenary, there was a general discussion of what Protected Areas entail. The participants expressed their concerns about the absence of alternatives that people can resort to in case of extreme weather conditions like droughts, uncontrolled fires and population growths and wondered the linkage of such scenarios to climate change – which one leads to the other? It was noted that adaptation needs require the change in habits for instance feeding habits, providing alternative

sources of livelihoods to encroachers like bee keeping, poultry raising, wildlife ranching, spot hunting among others.

There was a general consensus that while analyzing private lands, there is need for community participation so that their solutions are factored in the corresponding policy responses. It was suggested that adaptation needs could stipulate what policy needs there are, and not how animals cope.

Group 3: Laws and Institutions

This group identified the threats and policy responses to the following sectors; land, agriculture, forestry, wildlife, water, air; and energy.

1. Land

The following were identified as threats to land :

- degradation : settlement and growth linked to population growth,
- overgrazing and poor farming methods,
- increased demand for fuel wood for firewood & charcoal.
- wetland degradation; and pollution.

Species loss, invasive species

Participants were cautioned to explain how threats are linked to climate change for instance in regard to overgrazing, the threat is prolonged droughts and excessive rains. Prolonged rains lead to excessive erosion, loss of vegetation, siltation, loss of soil fertility.

The group also discussed at length the indirect impacts of climate change on agriculture including crop failure, pests & diseases, soil erosion and habitat loss.

The country already has an elaborate policy, legal and institutional framework:

- The existing laws and institutional arrangements for land, agriculture, forestry, wildlife, water, air and energy, while they were effective in the past, are now increasingly becoming ineffective as Climate Changes rages on. Gaps are now emerging in the laws and is making it difficult for the existing institutions to enforce the laws;
- There is need for the laws to be dynamic to capture the effects of climate changes and at the same time avoiding abuse of the law;
- There is a draft policy on invasive species that was developed by NARO that has not yet been ratified and another on disaster management which does not integrate climate changes;
- Some Acts were developed ahead of the Policies e.g. the 1998 Land Act and the 2010 Land Policy. The emergence of the Policy therefore introduced gaps in the Act;
- Gazette eco-sensitive areas as no go areas for development or investment; only allowing those developments and investments that are in consonance with the sustainable

management objectives of the eco-sensitive zones.

Actions on the Laws:

- Need for a law that promotes organic farming to take advantage of the organic market;
- Review the Country and Town Planning Act to promote vertical, instead of horizontal urban growth i.e. storeyed buildings to address the issue of population growth and need for settlements;
- Review all existing laws to take into account climate change;
- Take advantage of the opportunities presented by Blue-Carbon trading;
- Develop a policy, legal and institutional framework for REDD+ and carbon (emissions) trading.

Action on Institutions:

- Establish linkage between Climate Change and disaster reduction departments;
- Enhance the coordination between institutions that are linked with Land, agriculture, forestry, wildlife, water, air and energy;
- Review effectiveness of existing institutions with a view of identifying gaps, challenges, linkages and opportunities for action to address Climate Change sensitive development;
- Strengthen existing institutions and introduce new appropriate ones to meet the emerging Climate Change+ demands.

Group 2: Forestry

DIRECT THREATS	INDIRECT THREATS	IMPACTS ON BIODIVERSITY	ADAPTATION MEASURES/ NEEDS
Prolonged droughts, encroachment, bush fires, indiscriminate cutting of trees	Habitat loss or destruction	Extinction or decline in species richness & diversity.	-Identify and protect areas for protection rather than retaining large areas. -Promote eco-friendly enterprises/technologies e.g. Agro-forestry
	-Over grazing leading to degradation. -colonization of alien species	-Above and below ground biodiversity loss i.e. Termites and earth worms, -Regeneration of new species and extinction of indigenous species.	-Promote Indigenous traditional Knowledge and use of local farming methods (e.g. use of organic manure).

	Collapse of natural hydrological systems(i.e. change in H ₂ O balance	-Loss of species as gradual forest succession sets in -Loss of endemism	
Limited livelihood opportunities	Over utilization of forest resources(Timber, fuel wood	-Species loss e.g. Mahogany species, Mvule and Podocarpus species, etc all enlisted under nationally threatened.	-Provide alternatives (i.e. Enterprises/technology, skills development) -Regulate the use of resources through use of laws (Local by-laws, Ordinances). -introduce other sources of energy
Conflicts/competition/insecurity over scarce resource	Clearance of forests	Extinction of species	-Regulate the use of resources -Community engagement through Planning(Adaptive community management) - protect forest patches or corridors.

The need to determine which threats are linked to climate change was emphasised.

There was an extended discussion of why the identified threats should be linked to climate change, and what this actually means.

7.0 Workshop Recommendations

The participants reiterated the need to map out where the ecologically sensitive areas in the country are located in order to ascertain which areas ought to be protected, specifically since some developments can still take place in Protected Areas.

The meeting agreed that civil society must engage more with Parliament and streamline coordination between the different government agencies. To this end, it was also proposed that government should incorporate the costs of responding to climate change and adaptation into sector wide development planning processes so that when disasters occur, there is a contingency budget from which response initiatives can be drawn.

It was further agreed that a working group on biodiversity and climate change be established to engage and discuss on emerging issues and how to cover the existing gaps.

Further, the participants underscored the need for effective communication between government, academia and civil society to ensure that the public has confidence and trust in initiatives being undertaken. Particularly, the need for confidence and trust in government in regard to mechanisms of response or disaster risk reduction when catastrophes or disasters strike was emphasized.

The following were the specific institutional recommendations that the meeting identified:

- review all existing laws to take into account climate change;
- develop a policy, legal and institutional framework for REDD+ and Carbon (emissions) trading.
- establish linkage between climate change and disaster reduction departments;
- enhance the coordination between institutions that are linked with Land, agriculture, forestry, wildlife, water, air and energy;
- review effectiveness of existing institutions with a view of identifying gaps, challenges, linkages and opportunities for action to address climate change sensitive development;
- strengthen existing institutions and introduce new appropriate ones to meet the emerging climate change demands.

8.0 Closing Remarks

The Director of Greenwatch thanked the participants for their active participation through the entire period of the workshop. He stressed the need to work with Uganda Law Reform Commission to incorporate climate change into legislation and pledged to follow up this process.

The need to create a working group to continue dialoguing on this issue was once again emphasised.

The Director reiterated his conviction that many of the issues that were deliberated on during the duration of the workshop would be seriously taken up by many of the participants at their respective areas of work.

The Director also expressed his gratitude to the **John D. and Catherine T. MacArthur Foundation** who through the Environmental Law Institute, availed funds that made the convening of the workshop possible.

9.0 Workshop Pictorial



Above: left: "Saying hello" to the Shoe Bill.

Right: Participants in one of the sessions.



Left: A cross section of the participants

Below: Participants having a feel of a python at the Uganda Wildlife Education Centre (UWEC).



10.0 APPENDICES

APPENDIX: I

OPENING SPEECH BY THE HON. MRS. FLAVIA MUNAABA, MINISTER OF STATE FOR ENVIRONMENT.

14TH DECEMBER, 2011.

Honourable Members of Parliament present,

distinguished guests, The Director- Greenwatch, ELI representatives,

Ladies and Gentlemen.

It gives me much pleasure to officiate at the opening of this workshop on climate change adaptation and biodiversity management, a subject that has become increasingly important globally. Indeed climate change requires concerted efforts to address it.

This workshop on climate change adaptation is very timely, coming just a few days after the COP 17 in Durban, South Africa.

I have no doubt that the Government is taking the issue of climate change seriously. According to the Intergovernmental Panel on Climate Change, Africa will be hit hardest by global climate change, yet the continent has contributed the least (3% of the global Green House Gas emissions responsible for climate change) and is among the least equipped to adapt its adverse effects.

Global warming is indeed the biggest environment and development challenge we are facing in the 21st century. The scientific community has strongly come to a consensus that the globe is undoubtedly warming. Global warming is largely a result of emission of carbon dioxide and other greenhouse gases into the atmosphere. These gases are being emitted by industrial processes, fossil fuel combustion, and changes in land use such as deforestation.

Ladies and Gentlemen, there is a lot of evidence of the consequences that have resulted from this warming. Among these are changes in precipitation patterns resulting in increased floods which have caused loss of infrastructure for instance bridges being washed away in Karamoja region, roads being impassable many parts of the country. Just a few days ago, it was reported in the New Vision that River Kitumbi in Kyankwanzi District had burst its banks sweeping away peoples' homes and displacing many. Some of the impacts are made worse by our very own actions, like poor waste disposal which blocks the channels and finally finds its way into water bodies and erosion causing siltation.

In Mbarara recently, it was reported that a bridge connecting Nyamitanga and Mbarara was swept away, cutting off access to markets for residents of Nyamitanga and other surrounding villages. Many other examples abound. Such floods no doubt impact on public health as they consequently result into the emergence of water borne diseases.

I believe you are all aware that there has been an increase in droughts in recent times; these indeed are a threat to food security as they cause food scarcity. The scarcity of food results into high food prices, inflation and in some cases domestic violence has been reported. A UNEP study that calls for major investments in climate change adaptation to reduce the risk of conflict and forced migration released recently in Durban confirms the above. The study revealed that changing climate trends in the Sahel and West Africa have profound implications for food security and regional stability. The study analysed regional trends in temperature, rainfall, droughts and flooding over the past 40 years and their implications for the availability of natural resources, livelihoods, migration and conflict in 17 West African countries from the Atlantic coast to Chad. The result of all this is that families break up, conflict emerges and eventually war may break up.

Reports of biodiversity loss as a result of environmental degradation for instance deforestation are also many. You will agree with me that all these have serious impacts on peoples' livelihoods especially in Low Developing countries such as ours.

Mitigation measures have been put in place, but are largely inadequate. Mitigation is seen by many as not enough on our side. We have to devise both mitigation and adaptation measures. Mitigation is the short term options; however, adaptation is the longer term measure and is a sustainable option.

Adaptation is requires at all levels and all spheres. We have to adapt our policies, plans, laws and institutions to take into account the climate change.

Our laws especially natural resource laws were enacted long ago and no consideration was made for climate change. There was no policy or plan or subject information to guide. The existing laws do include some provisions that could be useful to adapting to climate change – for example, monitoring the status of biodiversity – but these provisions were not adopted with climate change in mind.

In addition, our laws do not effectively address other climate-related effects, such as increased fires, floods, invasive species, trans-boundary resources, food security. For instance, it would indeed be difficult to tell what an invasive species is if the ecosystem changed and handling climatic issues with effects that are trans-boundary in nature would also prove difficult.

The failure of existing legal frameworks governing biodiversity to actively consider, let alone address, the effects of climate change could deter the implementation of effective measures to adapt to climate change. For instance, if ecosystems are changing due to climatic changes in precipitation and temperature, many species will become less suitable to their historic environments.

It is therefore important that these laws are harmonized with the laws of the East African Community to improve managing effects of climatic changes in the region. Using legal and policy tools is one of those measures that will assist us in addressing some of these challenges that will emerge as a result of such climatic changes.

This workshop is intended to:

- introduce participants to a resource manual on “*Legal and Policy tools to adapt to Climate Change*;
- develop strategies for incorporating adaptive management principles into the legal and policy framework governing biodiversity in Uganda;
- identify opportunities where the outlined tools in the resource manual can be applied in Uganda.

Looking through the programme, I am convinced that this particular workshop goes an extra mile in covering an area that has not been tackled by many before.

I hope that this workshop will enable you to understand and conceptualise the legal and policy issues of climate change adaptation and their inter-linkage to biodiversity management. I also urge you to utilize the materials you will be given, to enhance your knowledge in legal and policy aspects of climate change adaptation and biodiversity management and apply it in your respective areas of work.

In conclusion, I would like to express my sincere appreciation to the organizers of this workshop, **Greenwatch** and the **Environmental Law Institute** for sponsoring this workshop.

Ladies and Gentlemen, I wish to extend my sincere thanks to you the participants and the resource persons for being able to find time from your busy schedules to attend this important workshop.

Lastly, I wish you fruitful deliberations during the entire period of the workshop.

With those few remarks, IT IS NOW MY PLEASURE TO DECLARE THIS WORKSHOP OFFICIALLY OPEN.

FOR GOD AND MY COUNTRY.

APPENDIX : II PROGRAMME

Legal and Policy Tools to Adapt Biodiversity Management to Climate Change

Theme: Biodiversity Management and Climate Change Adaptation

Day one: Wednesday 14th December, 2011

Time	Activity	Description	Responsible person
4:00 p.m. onwards	Arrival of Participants	Check in <i>Workshop Handouts and materials</i>	Greenwatch, Hotel Management
7:00 - 9:00 p.m.	Opening Dinner	Official opening remarks: <i>Welcome remarks- Greenwatch</i> <i>- Remarks from ELI</i> <i>- Remarks from NEMA</i> Official Opening by Hon. Mrs. Flavia Munaaba, Minister of State for Environment	Greenwatch, Hotel Management

Day Two: Thursday 15th December, 2011

8:00 – 8:15 a.m.	Registration of Participants		Greenwatch
8:15 – 8:25	Participant Introductions		All
Session I: Overview of Climate Change, Facilitator: Dr. Chris Bakuneeta			
8:25 – 9:25	Overview of climate change in Uganda	<i>The presenter will present an overview of climate change impacts on biodiversity in Uganda, current trends in Climate change adaptation in Uganda; Disaster risk reduction and adaptation, Dealing with uncertainties and vulnerability assessments: The case of Mt. Elgon Ecosystem, Eastern Uganda.</i>	Mr. Waiswa Ayazika, Director, EIA Monitoring and Compliance -NEMA
9:25 - 10:00	Overview of Adaptation	<i>The presenter will present an overview of Adaptation; Eco-system –based management: Active and passive adaptive management; adaptive measures Uganda has put in place;</i>	Prof. Chris Bakuneeta, Department of Botany, Makerere University.

		<i>Use of traditional knowledge in adaption; and Up scaling and coordinating instituted measures.</i>	
10:00 -10:30	Tea Break		
10:30 - 11:20	Discussions		
Session II: The Climate Change Resource Manual			
11:20 -12:20	Introduction to the Climate Change Resource Manual	<i>The presenter will present the – Scope of the Manual including legal and regulatory tools, - application of the legal tools in the manual, -its relevance, and implementation, and the target audience.</i>	Ms. Lisa Goldman, Senior Attorney, ELI
12:20 - 1:00	Discussions		
1:00-2:00p.m	Lunch Break		Hotel Management
Session III: Legal and Policy Tools for Adaptation and Biodiversity Management in Uganda Facilitator: Mr. Onesmus Mugenyi			
2:00 - 2:40	Legal and Policy Framework for Biodiversity and Climate Management in Uganda	<i>The presenter will present: - An overview of the Legal and Institutional Framework governing biodiversity and natural resources management in Uganda with specific reference to: - using legal rights and safeguards to promote adaptation; - Compliance and Enforcement mechanisms: permitting, bonds, licensing, concessions etc. - Lessons learnt and Challenges</i>	Ms. Christine Akello Senior Legal Counsel –NEMA.

2:40 - 3:10	Legal adaptation to climate change	<p><i>The presenter will present:</i></p> <ul style="list-style-type: none"> - <i>the need to review the law in order for it to promote adaptation to climate change;</i> - <i>a brief overview of laws that require immediate review; e.g. the Land Act, Water Act, NEA, Investment Code etc.</i> - <i>Strategies for implementing legal reform measures</i> 	Mr. Kenneth Kakuru <i>Director, Greenwatch</i>
3:10 - 3:50	Discussions		
3:50 - 4:10 Tea Break			
Session III: Adaptation Projects in Uganda. Facilitator: Hon. John Kigyagi			
4:10 - 4:40	Report on Projects of biodiversity and climate change adaptation (15 minutes each)	<p>Community Participation in climate change Adaptation:</p> <ul style="list-style-type: none"> <i>i) ECOTRUST: Payment for Ecosystem Services Project.</i> <i>ii) Nature Palace Foundation: Energy saving stoves, briquettes+ tree planting initiatives.</i> 	<p>Ms. Pauline Nantongo, E.D Ecotrust</p> <p>Mr. David Nkwanga</p>
4:40- 5:00p.m	Country experience from Madagascar		Dr. Lalaina Rakotoson, Team Leader - DELC Madagascar.
5:00- 5:20p.m	Discussions and wrap up		
7:00 p.m.	Dinner		Hotel

Day Three: Friday 16th December, 2011

Session IV : Economic dimensions of Climate Change : Facilitator: Hon. Michael Werikhe			
8:30 - 8:45	Recap of Day One		

8:45 - 9:20	The Implications of Climate Change for Uganda's Socio-economic development	<i>The presenter will highlight the importance of mainstreaming climate change adaptation considerations into local government development planning, mainstreaming Climate Change into Poverty Reduction Strategies; the case of PEI. - crafting sustainable adaptation projects.</i>	Mr. Eugene Muramira <i>Director, Policy and Planning, NEMA</i>
9:20 - 10:20	Discussions		
10:20 -10:45	Tea Break		
Consolidating Country Processes and Programmes. Facilitator: Ms. Christine Akello			
10:45 - 11:20	Outcome of Cop 17, Durban; What does it mean for Uganda?	<i>Cop 17: What was the outcome? What are the implications of the outcome for countries like Uganda? What is Uganda's progress on the climate change policy?</i>	Hon. Mr. Stephen Chebet, Climate Change Unit
11:20 - 12:00	REDD Process	<i>The presenter will present an overview of REDD with specific emphasis on adaptation, its implementation in Uganda including the process, projects promoting conservation for carbon credits, current opportunities for Uganda, Challenges.</i>	Mr. Xavier Mugumya <i>National Focal Point REDD, NFA</i>
12:00 - 1:00	Discussions		
1:00 - 2:00	Lunch		Hotel

2:00 - 4:00	Break up into Groups	Participants break into groups.	All
4:00 - 4:15	Afternoon Tea Break		
4:30 - 6:30	Trip to the Uganda Wildlife Education Centre (UWEC)		All
7:00 p.m.	Barbeque		Hotel
Day Four: Saturday, 17th Dec. 2011			
8:30 - 9:00 a.m.	Recap of day three		
9:00 - 10:30	Report from Groups	Group leaders report on group discussions	
10:30 -10:50	Tea Break		
10:50-11:30	Recommendations and way forward		Ms. Christine Akello
11:30 - 12:30	Closing ceremony	<i>Closing remarks:</i> <i>ELI</i> <i>Greenwatch</i>	Ms. Lisa Goldman Mr. Kenneth Kakuru
12:30-2:00 p.m	Lunch and departure		All

APPENDIX III: GROUP PRESENTATIONS

GROUP I: Protected Areas & Wildlife

Protected areas

Areas gazetted for the protection, conservation and enjoyment of nature e.g. forest reserves, National Parks, Ramsar sites, world heritage sites, wildlife sanctuaries, zoos, herbaria, etc.

Wildlife

Refer to both flora, fauna, fungi, bacteria and virus in the wild

Threats to Biodiversity

- Human Activities (e.g. encroachment because decreasing pastures, considered fertile for cultivation, poaching, bush fires, search for timber)
- Natural calamities (Bush fires, Lightning, Drought, Floods)
- Pests and diseases

Adaptation Needs

Human activities

- Enforcement of laws on encroachment and resource sharing
- Alternative sources of livelihoods e.g. bee keeping, poultry, sustainable agriculture, Biogas, Wildlife ranching & conservancies, spot hunting on community lands, community tourism)
- Fire lines, early burning, early warning systems, buffer zones, controlled fires
- Fencing to curb encroachment and reduce the Human-Wildlife conflict

Natural calamities

- **Lightning** (Lightning arrestors, Plant and conserve trees, Incorporate IK on management,)
- **Drought** (irrigation, valley dams, tree plants, EWS)
- **Floods** (plant and retain trees, EWS)
- Regular wildlife census
- Wildlife corridors
- Research on PA & WL and dissemination of biodiversity status information
- Awareness raising on the threatened species,
- Community empowerment
- Adaptive Collaborative PA &WL Management and PA conservation

Members

- Hon. Beatrice Ibi-Chair
- Paul Okiror-Secretary
- Hon. John Kigyagi
- Geoffrey Kamese
- Innocent Akampurira
- Henry Seguya
- Sarah Nahurira
- Maria Baryamujura

GROUP TWO: FOREST ECOSYSTEM THREATS; IMPLICATIONS ON BIODIVERSITY AND POSSIBLE ADAPTATION MEASURES

Group Members:

- Sylvano Afai-MWE/DEA
- Kalangwa Eseza-CLOMIC FOUNDATION
- Dr. Lalaina Rakotosan-Law Institute-Madagascar
- Hadad Kavuma- Environment Management Facility and Livelihoods, Bwaise
- Irene Ssekyaana- Greenwatch
- Jacob Otim - MWE/Water Resources Management
- David Nkwanga - Nature Palace – CBO.

GENERAL ISSUES

- Forests are the most diverse terrestrial habitats on earth;
- Major homes to most biota;;
- Its massive loss inevitably causes wide spread extinction of biodiversity (Cardillo,2006) i.e. species richness, diversity and habitat.

DIRECT THREATS	INDIRECT THREATS	IMPACTS ON BIODIVERSITY	ADAPTATION MEASURES
Prolonged droughts, floods & decreasing soil fertility (thus attempt to expansion of agricultural land/Increase productivity)	Habitat loss or decline	Extinction or decline in species richness & diversity.	-Identify and protect areas for protection other than retains large area. -Promote eco-friendly enterprises/technologies e.g. Agro-forestry
	-Over grazing leading to degradation. - Increased pesticide and herbicide use.	-Above and below ground biodiversity loss i.e. Termites and earth worms, -Regeneration of new species.	-Promotion of Indigenous traditional Knowledge and use of local farming methods (e.g. use of organic manure).

	Collapse of natural hydrological systems(i.e. change in H ₂ O balance	-Loss of species as gradual forest succession sets in -Loss of endemism	
Limited livelihood opportunities	Over utilization of forest resources(Timber, fuel wood and NTFP Pouching	-Species loss e.g. Mahogany species, Mvule and Podocarpus species, <i>strombosa sceffleri</i> etc all enlisted under nationally threatened.	-Provide alternatives (i.e. Enterprises/technology, skills development) -Regulate the utilization through use of laws(Local by-laws, Ordinances).
Conflicts/competition/insecurity over scarce resource	Clearance of forests	Extinction of species	-Regulate the use of resources -Community engagement through Planning(Adaptive community management)

Group III: Laws and Institutions

Members:

- Kenneth Kakuru,
- GasterKiyingi
- Henry Bazira
- Julius Ssenyonjo
- Samson Mukenye
- DidasNamanya
- David Mwayafu

Recognised:

The country already has an elaborate policy, legal and institutional framework:

- The existing laws and institutional arrangements for land, agriculture, forestry, wildlife, water, air and energy, while they were effective in the past, are now increasingly becoming ineffective as Climate Changes rages on. Gaps are now emerging in the laws and is making it difficult for the existing institutions to enforce the laws;
- There is need for the laws to be dynamic to capture the effects of Climate Changes and at the same time avoiding abuse of the law;
- There is a draft policy on invasive species that was developed by NARO that has not yet been ratified;
- There is a policy on disaster management which does not integrate Climate Changes;
- Some Acts were developed ahead of the policies e.g. the 1998 Land Act and the 2010 Land

Policy. The emergence of the Policy therefore introduced gaps in the Act;

- Gazette eco-sensitive areas as no go areas for development or investment. Only allowing those developments and investments that are in consonance with the sustainable management objectives of the eco-sensitive zones.

Actions on the Laws:

- Need for a law that promotes organic farming to take advantage of the organic market;
- Review the Country and Town Planning Act to promote vertical, instead of horizontal urban growth i.e. storeyed buildings to address the issue of population growth and need for settlements;
- Review all existing laws to take into account climate change;
- Take advantage of the opportunities presented by Blue carbon trading;
- Develop a policy, legal and institutional framework for REDD+ and Carbon (emissions) trading.

Action on Institutions:

- Establish linkage between Climate Change and disaster reduction departments;
- Enhance the coordination between institutions that are linked with Land, agriculture, forestry, wildlife, water, air and energy;
- Review effectiveness of existing institutions with a view of identifying gaps, challenges, linkages and opportunities for action to address Climate Change sensitive development;
- Strengthen existing institutions and introduce new appropriate ones to meet the emerging Climate Change+ demands.

APPENDIX IV: PAPER PRESENTATIONS

Function Areas for Adaptive Legal Frameworks

At different levels of government, being “adaptive” means different things. A legal and policy structure for adaptive resource management programs will likely rely on mandatory reporting requirements, audits, inspections, compliance and enforcement mechanisms, and other ‘hard’ legal requirements. These will look very different from the flexibility mechanisms in the management plans they authorize. Frameworks for adaptation through adaptive management create a resilient, feasible, and enforceable legal framework where flexible, adaptive management can take place.

Vision and Planning Involves 3 steps:

1. **Creating scenarios:** explore possible future scenarios based on trends in the key drivers of change;
2. **Evaluating current and proposed policies** to determine which will likely be most effective over the long term; and
3. **Defining core conservation objectives** based on a fuller understanding of feasible outcomes as well as key uncertainties that may undermine those goals.

Information Management

Monitoring and information-gathering provide decision makers the information they need to know whether current management plans are working as expected or need to be changed.

Considers 3 elements:

1. Establishing baselines and identifying information gaps (a baseline is a fixed description of the status of a resource). Must look at both current and past trends in setting the baseline;
2. Choosing indicators for targeted monitoring (e.g. temperature & precipitation patterns, storm activity, changes in ocean & freshwater activity, changes in species’ growth patterns and geographic distribution); and
3. Deciding who does the monitoring (permit holders/resource users; academic institutions, agencies, communities + supplement with other information.

(1) Establishing baselines:

- A baseline is a fixed expression of the status of a resource.
- Important to look not only at current conditions, but at past trends for that resource
- Can then define management goals by reference to that baseline. BUT where climate change may have large-scale impacts, using historical baselines may not be realistic.
- In determining the historic baseline and appropriate management targets under future conditions, must identify key **information gaps**.

(2) Choosing indicators:

Identifying a list of indicators makes it easier to monitor the effects of climate change on an ecosystem.

Examples of indicators include:

- temperature patterns (especially extremes)
- precipitation patterns
- storm activity and extreme weather patterns
- changes in ocean and freshwater chemistry

- changes in species' growth patterns and geographic distribution
Comprehensive monitoring should take into account both spatial (geographic location) and temporal (time period) variability in ecological indicators

(3) Who does the Monitoring?

Under existing laws, the permit holder or resource user reports environmental information to authorities, but these reporting requirements, while important, may not be sufficient to capture large-scale impacts caused by climate change.

Academic institutions could be useful monitors, as they may already be collecting data for research purposes. Collected data can also be supplemented with ecological data through international sources like UNEP's World Conservation Monitoring Center and the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES).

Periodic reviews

Periodic review points can be used to evaluate knowledge about an ecosystem, current trends, and emerging threats. This information can be used to make adjustments in strategy, although the discretion to make changes should be constrained by the needs of stakeholders and the ecosystem e.g. Uganda's Law Reform Commission Act of 1990 – establishes a Law Reform Commission to review laws & issue recommendations for improving them based on changing societal needs.

Step 1: Building continuous decision-making processes and institutions

Effective programs of review and oversight might include:

- a representative body legally empowered to meet regularly and assess the status of management efforts and new trends in the ecosystem;
- transparent procedures of operation, including clear rules on what is and is not within the discretion of the body to change;
- sufficient financial resources, technical capacity, and human resources to support the reviewing body's ability to meet its mandated obligations.

Step 2: Reviews set at periodic intervals or by triggering events

Resource laws that provide frequent, mandatory review points allow for quicker responses to new and emerging threats from climate change. Reviews can be set at periodic intervals (e.g. every year), and they can be set when thresholds are crossed (e.g., when a species population is reduced below a certain number).

A combination of periodic review points that evaluate all available information and new concerns, coupled with a system of threshold triggers, may be the best way of ensuring that all possible threats to a system are detected and acted upon as early as possible.

Coordination of policies and activities

There are two types of relationships that should be strengthened to improve the transfer of information and the coordination and integration of policy objectives and management efforts. This can be among actors within government including between different agencies, within the same agency, or at different levels of government (local, provincial, national) or among different economic sectors such as Water, Agriculture, and Mining.

In category 1: Options under existing institutional structures could include:

1. appointing inter-agency contact persons (liaisons) to coordinate on cross-cutting climate change adaptation issues;

2. assigning responsibility to each line ministry to consider climate change in activities and programs (e.g. through use of EIA and SEA);
3. establishing regional coordinating bodies that streamline existing legal authorities.

Under the second category and using EIA laws;

Environmental Impact Assessments can guide decision making on projects impacting natural resources that are likely to be affected by climate change.

Options for new structures, organizations, or agencies:

Climate Change Service (a non-regulatory and information-focused service that maintains early warning systems, provides reports on indicators for resource users, and maintains information databases)

An EIA system that captures and accounts for climate change in economic development and natural resources decision-making should use an impacts analysis that considers (i) the viability and cost of a project under a range of climate scenarios; and (ii) the impact of the project on an environment undergoing climate change.

Compliance and enforcement

1. Setting and enforcing Climate-resilient Management objectives

The flexibility designed into adaptive management should not carry over completely into the process for setting objectives.

Defining and modifying ultimate goals requires a different set of procedures that are more stringent than those governing adjustments in how those goals should be achieved.

Adjustment of ultimate objectives or redefinition of thresholds should not happen without significant input by the public and stakeholders through a deliberative process in which the scientific and policy bases for the adjustment are laid out for debate and possible rebuttal.

2. Options for insulating flexibility Mechanisms from misuse

Policymakers can give resource managers and users flexibility without sacrificing environmental protections or procedural safeguards.

Examples of legal flexibility include:

- allowing managers to use their expert judgment to make policy adjustments on issues considered from the start to fall within their discretion;
- setting standards individually by region based on local conditions and climate impacts;
- providing authority to adjust terms and conditions of resource use permits and authorizations to reflect changing ecological conditions.

Enforceable rights and duties

There is also a role for constitutional and statutory provisions guaranteeing substantive and procedural rights in fostering adaptive management, and for the courts in enforcing these provisions. The substantive right to a clean and healthy environment; the right to private property; the procedural rights of access to information and access to the courts.

Private property rights: opportunities and obstacles for adaptation

This can give NEMA more flexibility to confront environmental challenges arising from climate change impacts.

Permitting, licensing, and concessions for natural resource extraction

By viewing permits as adaptive management tools, managers can monitor, assess, and modify programs to protect resources that are affected by climate change.

This section examines how permitting and licensing practices for commercial-scale access and extraction of natural resources can be made more adaptive to the effects of climate change.

Five considerations: Establishing the legal entitlement – a privilege or a right?

Natural resource permits that can be modified or terminated based on periodic assessments of ecological conditions, including how a resource is affected by climate change, can help promote adaptive management.

A balance between providing clear terms and conditions for the permit holder and allowing flexibility for the government ought to be stricken to require modifications to adapt to changing circumstances.

You ought to think about whether the resource use should be considered a right (giving the resource user an absolute interest) or a privilege (giving the resource user a conditioned interest, which can be subject to requirements that can foster adaptive management).

Authority to evaluate and adjust permits – reopener clauses

Policymakers can improve their evaluations of the impacts of natural resource permits on the environment by setting out specific procedural and substantive requirements governing when and how a permit can be “reopened” or modified. Permitting regulations can provide a procedural framework detailing who conducts permit evaluations and at what intervals.

Reopener clauses do not terminate a permit, but rather provide periodic opportunities for study and reconsideration of the permitted activity’s impact on the environment in light of changing circumstances, such as climate change.

Authority to re-evaluate a permit can be invoked in two ways:

- i) **triggering event** (occurrence of a specific event that directs the permit holders or government to respond in a prescribed manner);
- ii) **temporal restriction** (passage of a defined period of time, or the arrival of a specified date, that prompts a prearranged response).

These provisions are called **reopener clauses**.

Madagascar grants 40-year mining permits, but the permit holder must undergo a mid-point evaluation and consent to revisions and modifications to the permit. Uganda’s 2003 Mining law requires those holding exploration and mining licenses to carry out an annual environmental audit.

Flexibility to allow permit holders to adapt to climate change

Permits whose terms can be adjusted to respond to changing ecological conditions can help promote climate change adaptation. However, such flexibility should not be allowed to undermine basic protections for biodiversity.

Flexible permitting provides adaptive capacity to resource users by allowing shifts in use to the least vulnerable resources or migration to more fertile areas.

For a resource whose availability is threatened by climate change (e.g. a lake drying up), a flexible system of **temporary permits** can be used to allow temporary access to other sources of that resource (e.g. a lake inside a protected area), but this must be done very carefully.

Including stakeholder input in permitting processes:

Increased stakeholder participation in resource governance improves the capacity of the system to adapt and respond to climate change. Project designers and resource managers might consider creating a stakeholder group and giving its members a significant role in ecosystem management, subject to appropriate oversight & accountability mechanisms. The stakeholder group could then set conservation and use goals, develop a plan for implementation, and enforce rules.

Stakeholders may include:

Community members, environmental organizations, resource extraction companies, local or indigenous resource users, scientific researchers & organizations, tourism operators, religious organizations, officials from other agencies or government levels, international organizations and other civil society institutions and trade organizations.

Ensuring compliance with monitoring & reporting requirements:

Monitoring and reporting by permit holders, with proper oversight, can provide important information about how climate change is affecting an ecosystem. Once monitoring requirements have been built into the permitting process, the question becomes **how to ensure they are implemented, complied with, and enforced to achieve accurate and useful reporting of information**. As we know, enforcement came up several times in yesterday's discussion.

Governments can ensure monitoring requirements are complied with through actions such as:

- 1) conditioning future permits on compliance with the current permit monitoring requirements;
- 2) requiring public disclosure statements;
- 3) requiring periodic reporting on monitoring efforts;
- 4) posting monitoring information online that can be accessed by the public;
- 5) authorizing citizen suits for filing false information and failing to report; and
- 6) using fees to support monitoring by independent third parties.

Example of auditing- in the Dominican Republic, SEMARENA is authorized to perform an environmental evaluation to ensure compliance with the terms of a license, by comparing self-monitoring reports to the environmental audit performed by the agency.

Example of incentives – in Bhutan, rewards are offered for reporting general forestry or wildlife-related offenses.

Example of bonding – in the Dominican Republic, the environmental Ministry imposes a performance bond of 10% of the value of a project to ensure compliance with project requirements over the long term.

Area 2: Community-Based Natural Resource Management

Because the impacts of climate change are localized, solutions must be context-specific

Community resource management shifts on-the-ground decision making from centralized authorities to local managers and stakeholders who may be better able to respond quickly to changing conditions and new information. Engaging and collaborating with local communities is critical to adaptation. Traditional knowledge and customary rules for resource use are an important starting point for developing locally-sensitive policies, strategies, and rules.

Promoting community awareness of climate change

Engaging the public at the community level allows planners, policymakers, and managers to determine local attitudes about climate change impacts; provide educational opportunities, awareness, and outreach, and build a stronger sense of solidarity across levels of governance.

Involvement in adaptation activities allows participants to “own” both the problem and its solution through informed engagement.

Communities informed about the measures others have taken to respond to climate change impacts similar to those that they face are more likely to accept the need for adaptation and to develop their own adaptation measures.

Public outreach can inform officials about local attitudes toward climate change, whether communities are already responding to changes they are seeing, or whether they have not yet recognized particular ecological impacts as being caused by climate change.

For communities that do not believe climate change is actually occurring or that feel they have no power over its effects, governments can:

- i) establish and promote local organizations, associations, or committees to share ideas and experiences;
- ii) establish and promote local environmental planning initiatives to give communities control over resources;
- iii) establish community-to-community networks of information exchange.

Using Local Knowledge of Climate and Adaptation Strategies

This knowledge includes the ability to interpret meteorological and climatic phenomena, manage ecological relations between society and nature, and adapt to environmental and social change.

Traditional and indigenous knowledge is an invaluable source of information on climate change and locally appropriate methods of adapting. Surveys, interviews, and other methods of gaining information about ecological conditions from local residents complement scientific data and enhance adaptation efforts.

Two types of information that can be useful:

- (i) the historic trends of the climate of a region and its effect on ecology; and the
- (ii) local methods for adapting or coping with those changes that have been effective in the past.

Considerations to keep in mind:

- (a) Indigenous peoples have been adversely affected by others taking their knowledge and the failure to obtain voluntary, prior, informed consent for its use;
- (b) Agreements can be negotiated to ensure that benefits from advances in climate adaptation resulting from the use of local information are shared with the people who provided that information;
- (c) Traditional knowledge has value (economic, aesthetic, and spiritual) apart from its use for climate adaptation or other scientific or policy purposes, and these other values should be respected by outside users, researchers, and officials.

Policy concerns surrounding community-based management:

Before carrying out a community-based climate adaptation program, policy makers must determine that the right social and political conditions exist for the transfer or devolution of power to local communities.

Continuing role for central governments:

- (i) help support implementation of customary or village-level regimes;

(ii) play an active regulatory role on questions uniquely within the central government's competency.

Categorizing resource management decisions:

- (i) choices properly within the discretion of local resource managers;
- (ii) choices that require local and central authorities to work together;
- (iii) choices most appropriately resolved by national-level authorities.

3: Protected Areas on public lands and waters

Climate change calls the existing protected area framework into question as well as the design and establishment of new areas. Instead, think about using a **landscape-level approach** for protected areas. A landscape-level approach to habitat conservation encompasses fully-protected areas (such as wildlife reserves or wildernesses) as well as human uses that take place between those areas

Matrix lands (lands outside the protected areas) can enhance connectivity between protected areas without requiring removal of human communities and activities.

Building climate resilience into the design of Protected Areas:

- Tailor restoration targets to future conditions, not historic ones;
- Protect the ecosystem and its functions rather than individual species;
- Protect heterogeneous habitat areas - without knowing exactly what changes will occur or the conditions that will prove beneficial, protecting a variety of habitats increases likelihood of safeguarding critical areas for species conservation;
- Preserve and enhance access to “climatic refuges” - areas that, due to their location or inherent stability, are expected to change the least in response to climate change; Conserving these areas provides protection for species and ecosystems with the best chance of weathering global climate change.

Issue of modifying Protected Area boundaries in response to climate change - concerns that this may be difficult to do in practice and could lead to abuse in shifting protected area boundaries. Instead, can allow for creation of temporary protected areas to provide protection during the administrative process of creating a more permanent protected area.

Improving connectivity between Protected Areas

1. **Corridors** – these are essential to allow species to migrate and establish new ranges when prior habitat areas are made unsuitable due to climate change.
2. **Stepping Stones** – these serve the same function as corridors, but take the form of “islands” of suitable habitat that span an unsuitable landscape, “connecting” two or more protected areas. Because they may require less land, they may be desirable for conserving species that are highly mobile, such as many birds, or that disperse widely and easily, such as plants that use airborne seed dispersion strategies.
3. **Buffer Zones** – areas adjacent to protected habitat that 1) protect core habitat from outside encroachment; and 2) can provide a valuable function for climate adaptation by allowing species to shift onto them.

Aligning community roles and benefit-sharing with adaptation

The establishment of new or larger protected areas in response to climate change should not come at the expense of communities who rely on local resources and ecosystem services for livelihoods.

Key legal and policy questions for community engagement in protected areas include:

- (1) Are local communities given **management responsibility**?
- (2) Do communities have a **role** in determining the outcome of **management decisions**?
- (3) Is there a **process for negotiation** between government authorities and communities?
- (4) Do communities have a right to **share economic benefits of a Protected Area**, either in cash (such as entrance fee revenues) or in-kind (such as the use of timber)? Countries like Madagascar and Bangladesh have policies giving some of the park revenue to local communities for development purposes
- (5) Do communities retain **rights to access natural resources in Protected Areas or in their buffer zones**? May communities access rights directly or as a benefit in exchange for management functions?
- (6) Does the law or regulation provide for a **formal agreement between government authorities and communities** for Protected Areas management, benefit sharing, and access rights?

Creating trans-boundary and international Protected Area networks

Management strategies that cross political borders are needed to identify, monitor, and jointly manage species and habitats vulnerable to climate change. Joint trans-boundary management of protected areas facilitates adaptive measures for climate change by providing a framework within which information about local changes can be conveyed to other conservation planners.

A strong legal framework for international collaboration on trans-boundary protected areas should include:

- Methods of inspection, verification, and reporting;
- Mechanisms for compliance and enforcement of commitments;
- Dispute resolution processes;
- Financing agreements (especially between countries with significant differences in management capacity).

To protect local livelihoods, consider use of Trans-frontier Conservation Area (TFCA). These are managed areas that cross the border of two or more countries. Consist of one or more protected areas surrounded by community- or individually- owned land that is managed for sustainable use of natural resources. They can extend the model of community-based natural resource management across national boundaries, especially where a local community or ethnic group is on both sides of the border.

Translocating species – Legal and Policy considerations

Translocation (also called “assisted migration”) can be used to move species into habitat more suitable for future climate conditions. This is a very controversial technique. Supporters believe it may be the only means of saving some threatened and endangered species from climate change, while opponents see it as unproven and expensive; a drain on resources for ecosystem-based conservation, and a threat to the host ecosystems where non-native species are moved, because these species pose a risk of becoming invasive.

Few countries have adequate legal frameworks for translocation. Those considering a translocation project should undertake a thorough assessment of the ecological benefits and costs.

Issues to consider:

- Subject all intentional species introductions to a permit system
- Impose penalties for violations or negligence that could result in the escape or introduction of a species harmful to the environment
- Formulate new policies on translocation of wild species for climate adaptation
- Establish specialized authorities composed of experts to advise on policy matters related to translocation and to make recommendations on specific cases of translocation when these are proposed

Private Lands Conservation

- Land ownership by NGOs
- Formally declared private reserves
- Ecological easements created under the civil code or common law
- Independent or “in gross” conservation easements that benefit the public good
- Land donations to protected area networks
- Conditional gifts or bequests
- Land trusts and limited development efforts
- Transfer of urban development rights
- Informal private reserves

Private Conservation Easements

Conservation easements are voluntary commitments by property owners to dedicate some or all of their property to conservation purposes;

Generally established through private agreements between a grantor (the land owner) and a grantee (a land trust or government charged with managing the easement)

May also result from a private-public partnership and need to ensure there are no legal hurdles to their development (e.g. laws in Latin America requiring owners to make “socioeconomic use of the land”). Laws authorizing creation of private conservation easements can provide regulatory clarity

Incentives such as tax breaks can help encourage creation of conservation easements

Public Law tools to support Adaptation and conservation on Private Lands

Under many climate scenarios, species may migrate outside protected area boundaries. Climate change may also render some private lands (such as lands in floodplains) unsuitable for commercial or residential development, and more suitable for use as, for example, wetlands habitat or a buffer from flooding. In these cases, private law tools and public-private partnerships can help create more areas to conserve and protect biodiversity. Incentives such as tax breaks for setting aside private property for conservation purposes can substantially increase participation.

1. Protections for buffer zones and private in-holdings (privately-owned land within the boundaries of public lands);
2. Linking public protected areas by a network of conservation easement biological corridors;
3. Community-NGO partnerships: local communities receive development benefits in exchange for participating in conservation activities;

4. Land swaps to create climate-resilient public lands networks (exchanging public lands for private lands);
5. Debt-for-land swaps: individuals who owe the government penalties can exchange land instead;
6. Use of royalties to support conservation areas: royalties required from concession holders (such as minerals, oil and gas, timber) can be used to support conservation efforts;
7. In-kind royalties in the form of landholdings (need to make sure the in-kind payment is equal in value to the lost payment and is in the public interest).

Mechanisms to adapt private conservation areas to Climate Change:

Contracts, charters, and agreements for private conservation areas should be drafted to ensure that conservation protections continue even if climate change causes fundamental changes in an area's ecological status.

It is important that years are set which can help prevent agreements from being cancelled due to climate change impacts in addition to specifying a language to prevent early termination due to climate impacts.

Also, standards to allow climate-sensitive changes to conservation easement management plans as well as equitably allocating risks and responsibilities for restoration and remediation between parties when climate change becomes a *force majeure* is inevitable.

Exchanging easement land when climate change destroys all values in a private conservation area can also be considered.

Rolling Easements

Rolling easements prevent property owners along shorelines from erecting structures that prevent the sea from advancing, while allowing other types of lawful development. The boundaries of a rolling easement automatically shift inland as the sea/lake advances, permitting wetlands and other tidal habitats to migrate inland as well.

Property owners must understand that the right to protect property from the sea is limited by the state's sovereign ownership of the shifting shoreline, the right of the public to access the shore, and environmental policy considerations related to maintaining a healthy coast/ shoreline.

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About Greenwatch.

Greenwatch is an environmental rights advocacy organization established in 1995 with the aim of enhancing public participation in the sustainable use, management and protection of the environment and natural resources and in the enforcement of the right to a clean and healthy environment.

At Greenwatch, we advocate for the enforcement of and compliance with environmental laws and principles through training which results in increased environmental awareness. We review and analyze Environment Impact Assessments (EIAs) of development projects with a likelihood of impacting on the environment negatively; a process which aims at influencing policy making for improved environmental governance in Uganda.

We support community initiatives through dissemination of information on environmental rights and laws for effective participation in decision making; conduct research and training for the public as well as government enforcement officers on access rights: access to information, access to justice and public participation in the governance of natural resources.



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